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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: CHRISTENSEN et al. Examiner: Unassigned
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Title: Multi-Functional Residential Communication Approach

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence and the papers, as described hereinabove, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on May 11, 2004

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PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Prior to commencing substantive examination of the above-identified application on the merits, please enter the following Preliminary Amendment.

Amendments to the Specification begin on page 2, ~~amendments to the claims are reflected in the listing of claims beginning on page 8~~ and the Remarks follow on page 12.

In the Specification:

Please replace the paragraph at page 1, lines 12-14, as indicated below:

The present invention relates generally to signal routing schemes for routing signals, such as audio and video signals, to designated facility areas (or "zones") and, more particularly, to distribution control arrangements for routing and controlling such ~~signals~~signals.

Please replace the paragraph at page 2, lines 9-16, as indicated below:

Moreover, many existing crossover products merely connect one staple product with another staple product ~~the PC~~ while carrying into the "integrated" system the lowest-level features of each product type. For example, a crossover product that connects the stereo and the TV set would permit the consumer to access information content (such as listen to the radio or their favorite album) only after waiting for the PC to boot up, or to turn on the TV just to select a radio station. While finding their way to market quickly, these configuration schemes are often manufactured without sufficient engineering forethought to simplicity and ease of use.

Please replace the paragraph at page 3, lines 19-27, as indicated below:

Another example embodiment of the present invention is directed to a signal-repeating device control arrangement that facilitates user control of various types of media equipment in a facility. The different types of user-controllable media equipment are located with respective user-interface units in various zones of the facility to provide user-selectable interaction for the user. The signal-repeating device control arrangement includes a transceiver for wirelessly communicating with a user's remote control, a data-routing circuit for communication with packet-communicating devices such as over an Ethernet, and an emulation circuit for providing an interface to manufacturer-specific equipment for control of other ~~devices~~device types and/or user input devices.

Please replace the paragraph at page 4, lines 3-7, as indicated below:

Other embodiments of the present invention are directed to approaches (arrangements and methods) for using the above-summarized devices, approaches for routing signals and commands between these devices, and ~~approaching approaches~~ for using various combinations of these devices for providing convenient and flexible control between the target terminals (*e.g.*, media devices) and the user-control devices (*e.g.*, touch panels).

Please replace the paragraph at page 5, lines 9-12, as indicated below:

FIGs. 3A and 3B are enlarged views of a touch screen panel having different ~~displayed screen~~ display screens, for use in the system of FIG. 1, with various user-selectable icons corresponding to media items to be controlled in response to the selection, according to another aspect of the present invention.

Please replace the paragraph at page 6, line 16 – page 7, line 2, as indicated below:

The user-interface units ~~providing~~ provide input selectors for controlling operation of the user-controllable devices via the signal-repeating device control arrangement. The user-interface units would typically be a portable handheld-type, or wall-installed, remote control unit. The signal-repeating device control arrangement includes a signal-repeating base-station for use in communicating with the zone-located user-controllable devices and a user-interface control device. The user-interface control device has a keypad or display touchpad for receiving inputs from a user and a transceiver for sending data wirelessly in response to the user inputs and for receiving data. In this particular embodiment, the signal-repeating base-station is installed in a location of the facility that is convenient and amenable to wireless communication and, if applicable, to wiring for one or more wired user-controllable devices. The base station includes a transceiver that is designed to send data to and receive data from at least one of the user-interface control devices. The base station also includes a data-routing circuit adapted to respond to the user inputs received via the base-station transceiver by sending designated groups of digital data sets (*e.g.*, data packets) to manipulate operation of at least one of the different types of user-controllable devices.

Please replace the paragraph at page 7, lines 3-15, as indicated below:

Referring now to the figures, FIG. 1 illustrates another example of the present invention. In this embodiment, a (fixed or portable) wireless touch panel 110 communicates with a base station 112 over a wireless communication link 114 to establish data communication links with various types of media terminals. The illustrated media terminal types include Ethernet communicable devices 121-125, devices 131-134 responding to infrared (IR) signaling, and devices for which communication is provided using a manufacturer-specific (versus industry standard) link 140. In this example, the manufacturer-specific link 140 is shown providing communication and control for [[a]] VIA! Net™ devices that are manufactured and made commercially available by Elan Home Systems of Lexington, Kentucky. While it is expected that different applications would benefit from other types and combinations of devices, the skilled artisan would appreciate that other and/or alternative device types can be used as the device types selected and described in connection with FIG. 1 are for illustrative purposes only.

Please replace the paragraph at page 9, lines 12-21, as indicated below:

As an example of remote control of generic media devices by the wireless touch panel 110, the interface emulator 112c is adapted to include conventional audio and/or video equipment 132-134 which respond to infrared (IR) signaling commands generated from the interface emulator 112c that, in turn, responds to commands from the wireless touch panel 110. Infrared control signals labeled as IR outputs are generated in any of the touch panels, for example, 110 and 151, the audio/video switcher and router 131 or the VIA! interface emulator 112c. Examples of such conventional audio and/or video equipment include televisions, recording devices, DVD, and digital, magnetic and other data-retaining technology. As is conventional, infrared coding for such devices can be ~~manufacturers~~manufacturer-specific and/or standardized; accordingly, the interface emulator 112c.

Please replace the paragraph at page 9, lines 22-29, as indicated below:

Accordingly, once configured via downloading device 166, the wireless touch panel 110 and the base station 112 can be used to control a multitude of media devices in zones (e.g., rooms and other dwelling areas) throughout the facility. From a functional perspective, the user has the ability to control any of the media devices directly or via a remote device such as one of the (wireless or wired) touch panels. In FIG. 1, the blocks identified with an encircled “1” in the lower right hand ~~corner~~corner are user control surfaces (in some embodiments, such “surfaces” include more conventional engageable keys or buttons) as found in a wireless or wired touch screen and a PC.

Please replace the paragraph at page 10, lines 1-5, as indicated below:

The blocks identified with an encircled “2” in the lower right hand ~~corner~~corner are media devices to be controlled by the user. There are three forms of control access: Ethernet-communicating devices being connected to the system with a standard Ethernet router 144. Because each of these devices have a unique IP address, they can be readily accessed and controlled by the wireless touch screen and wired touch panels.

Please replace the paragraph at page 10, lines 6-12, as indicated below:

The blocks identified with an encircled “2” in the lower right hand ~~corner~~corner are routing and interface devices that bridge signals between the control surfaces and the devices to be controlled. For example, these routers can be implemented as: an Ethernet Router which is a standard multi-port device that can be configured in 10 Base T, 100 Base T router or switch configurations. No special set up is required to use this device and it is not programmable. However, the IP addresses of each device are connected to the Ethernet ~~[[is]]~~as set in each connected device.

Please replace the paragraph at page 11, line 21 – page 12, line 2, as indicated below:

The wireless base station can be implemented using various types of programmable, semi-programmable, discrete logic circuits, and combinations thereof. A particular

programmable implementation is characterized as follows. The microprocessor 220 is implemented using a multitasking microprocessor such as an 8051-based Dallas Semiconductor DS80C320 processor with a built-in Ethernet hardware interface and software protocol stack. A flash memory circuit 244 is used for storage of executable and downloaded configuration data and program code. The PC host hardware interface 230 is an RS-232 transceiver such as a Maxim MAX232ECPE device. The VIA Net hardware interface 224 is an RS-485 transceiver such as a Maxim MAX3085CSA device. The IR generator hardware 238 is a simple interface buffer and voltage translator connected to a port pin on the microprocessor; this circuit can be realized using one or more NAND gates and NPN transistor circuits (not shown).

Please replace the paragraph at page 12, line 25 – page 13, line 2, as indicated below:

Each VIA! Net client has a VIA! Net address between 1 and 30 inclusive. VIA! Net addresses 0 and 31 have special meaning, and will be addressed later in this document. During normal VIA! Net operation, the VIA! Net network controller polls each address from 1 to 30 to ask each client if it needs service. If a client needs service, it posts its service request ~~immediate~~immediately following its being polled by the network controller. If the client does not require service, it simply does not respond to the poll. If the network controller detects a non-response within 100 microseconds of the completion of the poll, it moves on to polling the next client address.

Please replace the paragraph at page 13, line 24 – page 14, line 2, as indicated below:

Address 0 is referred to as the "pass" address. An example of a device that uses the pass address is the VIA! Learner, offered by Elan Home Systems. This device is typically connected to a PC at its "PC Host" port, and to a VIA! Net client on its "download" port. With such a connection, the PC communicates with the VIA! Learner by address 31 (since it is directly connected to the VIA! Learner), and communicates with the VIA! Net client by address 0 (since this address passes through the VIA! Learner to reach the client). The VIA! Learner basically translates all address 0 messages from the PC, host port into address 31 messages going out the download port.

Please replace the paragraph at page 14, lines 18-25, as indicated below:

For specific examples of manufacturer-specific user-controllable devices and/or user-interface units, the skilled artisan would recognize that various commercially-available products would suffice including but not limited to VIA!64 Color LCD Touch Panel, and VIA! SC-4 RS232 System Controller as manufactured and sold by Elan Home Systems, as well as competitive products such those commercialized by Creston Electronics of Rockleigh, New Jersey and CorAccess of Golden, Colorado. For further information regarding these devices, reference may be made to Appendix B as attached to the above-referenced underlying Provisional Patent document.

Remarks

The Specification has been amended to address typographical and grammatical errors only, no new matter has been introduced. The amendments to the claims in this Preliminary Amendment do not have a narrowing effect, and the original breadth of the amended claims is preserved. A favorable reply and entry of this amendment are earnestly requested.

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